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I, Wayne E. Nacker, Wayne E. Nacker, reg. No. 29,571, certify that this paper was sent to the USPTO by fax: 571-273-8300 on 14 March 2007.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Hunt et al.
Serial No. 09/748,714 conf. No. 4539
Filed: 21 December 2000
For: CHEMICAL VAPOR DEPOSITION METHODS FOR MAKING POWDERS AND COATINGS, AND COATINGS MADE USING THESE METHODS

Art Unit: 1762
Examiner: David P. Turocy

DECLARATION OF ANDREW T. HUNT
(pursuant to 37 CFR 1.132)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Andrew T. Hunt Declare as follows:

1. I was granted a PhD in the field of Materials Science and engineering from Georgia Tech in 1993. I am named as inventor or co-inventor on between 30 and 40 U.S. Patents. I currently hold the positions of Chief Executive Officer and Chief Technical Officer at nGimat Co., a Georgia Corporation located in Atlanta Georgia.

2. That an energy source ("at least one energy source") is chemically derived, e.g., chemical oxidation in a flame, and that this energy source provides the predominant source of energy for the method, is fully clear from the specification. For instance, in the examples, the source of silica (see e.g., Example 1) is Pt-cyclooctadiene (Pt-cod); the precursor of silica (see e.g., example 4) is tetraethoxysilane; the source of Mg as a dopant (see e.g., example 7) is Mg-naphthenate. Many other metalorgano precursors which will burn to produce energy when ignited (see e.g., page 18, lines 20-25) of the Specification). More importantly, these precursors are highly diluted in solvents that also act as combustible fuels, such as propane, toluene, or isopropyl alcohol. While a secondary energy source is contemplated, e.g., a spark ignition, it is clear from each of the examples

and the specification as an entirety that the primary energy source is by a chemical reaction or chemical reactions, particularly oxidation in a combustion flame. We cite earlier patents directed to CCVD on which I am first named inventor that further disclose more aspects of flame combustion and other references on combustion flames.

3. In fact, in each of the examples (1-9) in the specification the **only** source of energy is chemical energy, i.e., the oxidation of precursor chemicals and/or carrier gases, other than the inherent need for an ignition source (see p. 18, line 20-21 of the specification). All exemplified depositions are by CCVD (**combustion** chemical vapor deposition). An ignition source would supply only a small amount of energy to the system, and once a flame is established, is no longer required. A spark would be used only instantaneously, and would supply substantially no part of the energy. If a pilot is used as the ignition source, its energy would be chemically derived. Accordingly, it is submitted that the claim language: "derived from a chemical reaction(s), said at least one energy source being the predominant source of energy for said method" is fully supported by the Specification.

4. In none of the cited references is the energy source primarily derived from a chemical reaction or chemical reactions. In McKee the energy source is a magnetron that produces microwaves; in Affinito, a glow discharge plasma is generated on an electrode; and in Schutze et al., a plasma is likewise generated as glow discharge.

5. All Statements herein are made on my own knowledge or belief. I am aware that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 10001) and may jeopardize the validity of this application or any patent issuing thereon.

14 March 2007

Andrew T. Hunt